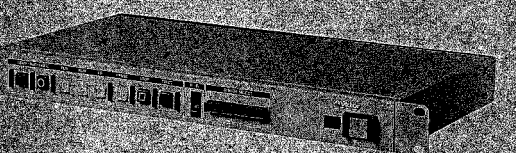
JVC

SERVICE MANUAL

MODEL RM-G77U



SPECIFICATIONS

GENERAL

Power requirements:	AC 120/220V, 50/60 Hz
Power consumption:	3.5 W
Dimensions (W x H x D):	485mm (W) x 45mm (H) x 245mm (D)
Operating temperature:	5°C to 40°C (41°F to 104°F)

CONTROLS

Cruising control:	PLAY, FF, REW, STOP, REC START, REC PAUSE, PAUSE, EJECT, HiFi SW

CONNECTORS

Output connector:	RCA PIN

ACCESSORIES

Power cord x 1	
Remote connector x 1	

FUSE

120V: F1:	QMF61C3-R63
F2:	QMF61C3-R25
220V: F1:	QMF51AZ-R50
F2:	QMF51AZ-R25

Design and specifications subject to change without notice.

No. 9126
Nov. 1985

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

4. Use specified insulating materials for hazardours live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors

5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

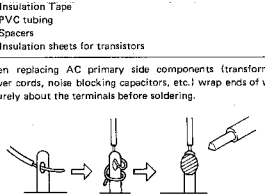


Fig. 1

6. Observe that wires do not contact heat producing parts (heat-sinks, oxide metal film resistors, fusible resistors, etc.)

7. Check that replaced wires do not contact sharp edged or pointed parts.

8. When a power cord has been replaced, check that 10—15 kg of force in any direction will not loosent it.

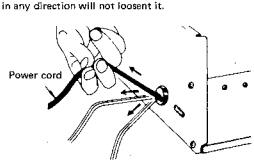


Fig. 2

9. Also check areas surrounding repaired locations.

10. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the parts specified. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission form the cathode ray tube.

11. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, performr carefully and precisely according to the following steps.
    1) **Connector part number :** E03830-001
    2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

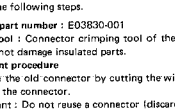


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

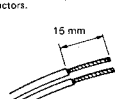


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

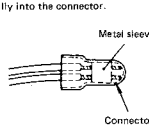


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

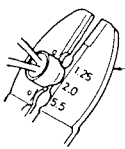


Fig. 6

(5) Check the four points noted in Fig. 7.

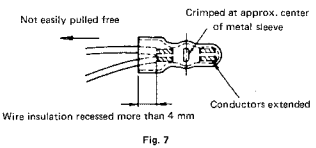

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, performe the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

2. Dielectric strength test
Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See tabel below.

3. Clearance distance
When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

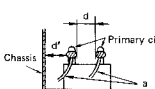


Fig. 8

4. Leakage current test
Confirm specified or lower leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)
Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

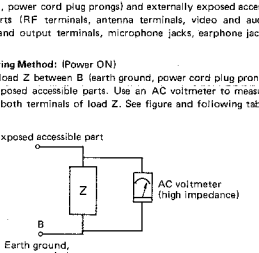


Fig. 9

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	≧ 1 mΩ/500 V DC	1 kV 1 minute	≧ 3 mm
110 to 130 V	USA & Canada	—	900 V 1 minute	≧ 3.2 mm
*110 to 130 V 200 to 240 V	Europe Australia	≧ 10 mΩ/500 V DC	4 kV 1 minute	≧ 6 mm (d) ≧ 8 mm (d') (≧: Power cord)

*Class II model only.

Table 1 Ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (b) to:
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current ratings for selected areas

Note: This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

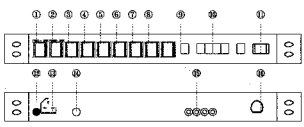
WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

This unit should be used with 120 V AC, 60 Hz or 50 Hz only.
CAUTION:
To prevent electric shocks and fire hazards, do NOT use any other power source.

Warning to purchasers:
The unauthorized recording of copyrighted broadcast programming for commercial purposes may be copyright infringement.

NOTE:
The rating plate (serial number plate) is on the rear of the unit.

CONTROLS AND CONNECTORS



①REC-START button
Engaged all connected BR-7000U5/B2 duplicator in the Record mode and button itself illuminates to show this. To release the Record mode, press the STOP or EJECT button.

②REC-PAUSE button
When pressed in the Record Record Pause mode with its lamp lit. To restart recording, press the REC-START button. To rerease the REC-PAUSE mode, press the STOP or EJECT button.
When pressed in the modes other than STOP or EJECT, engages the Record Pause mode after tape loading has been completed.

③Rewind button (REW)
Rewinds the tape when pressed in the Record, REC-PAUSE and EJECT modes.

④PLAY button
When pressed in the Stop mode, plays back the tape after tape loading has been completed. When pressed in the FF and Rewind modes, plays back the tape after tape loading has been completed via the Stop mode.

⑤Fast Forward button (FF)
Functions in the same way as the REW button.

⑥PAUSE button
When pressed in the Play mode, engages the Play Pause mode, with its lamp lit.
Has no effect when pressd in the other modes.

⑦STOP button
Engaged the STOP mode from any other mode.

⑧EJECT button
Engaged the EJECT mode from any other mode.

⑨Hi-Fi on/off switch
In the off position, Hi-Fi audio is defeated; only the video and normal audio signals are recorded.

⑩SYSTEM SELECT switch
The RM-77U is capable of controlling 4 series of duplicators. This switch selects the series to be remort-controlled. Pressing once turns the button red (ON) and pressing again turns it OFF.

⑪POWER button
Press to turn the power on. Pressing again will switch the power off.

⑫GND terminal

⑬AC Input sockt (AC IN)
Connect to a 120/220 VAC, 50Hz or 60Hz power outlet.

⑭Fuse holder

⑮OUTPUT connectors
To remort-control the BR-7000U5/B2 duplicators. Up to 50 units can be connected in series to a single connecter.

⑯Remort control connectors
To control the RM-G77U externally or to control external equipment with the commands from the RM-G77U.

Remort control connector pin configuration

1. REC-START 2. REC-PAUSE 3. REW 4. PLAY 5. FF 6. PAUSE 7. STOP 8. EJECT 9, 10, 11, 12, 13. (Not used) 14. GND

SPECIFICATIONS

Power requirement: AC 120/220V, 50/60Hz

Power consumption: 1 W

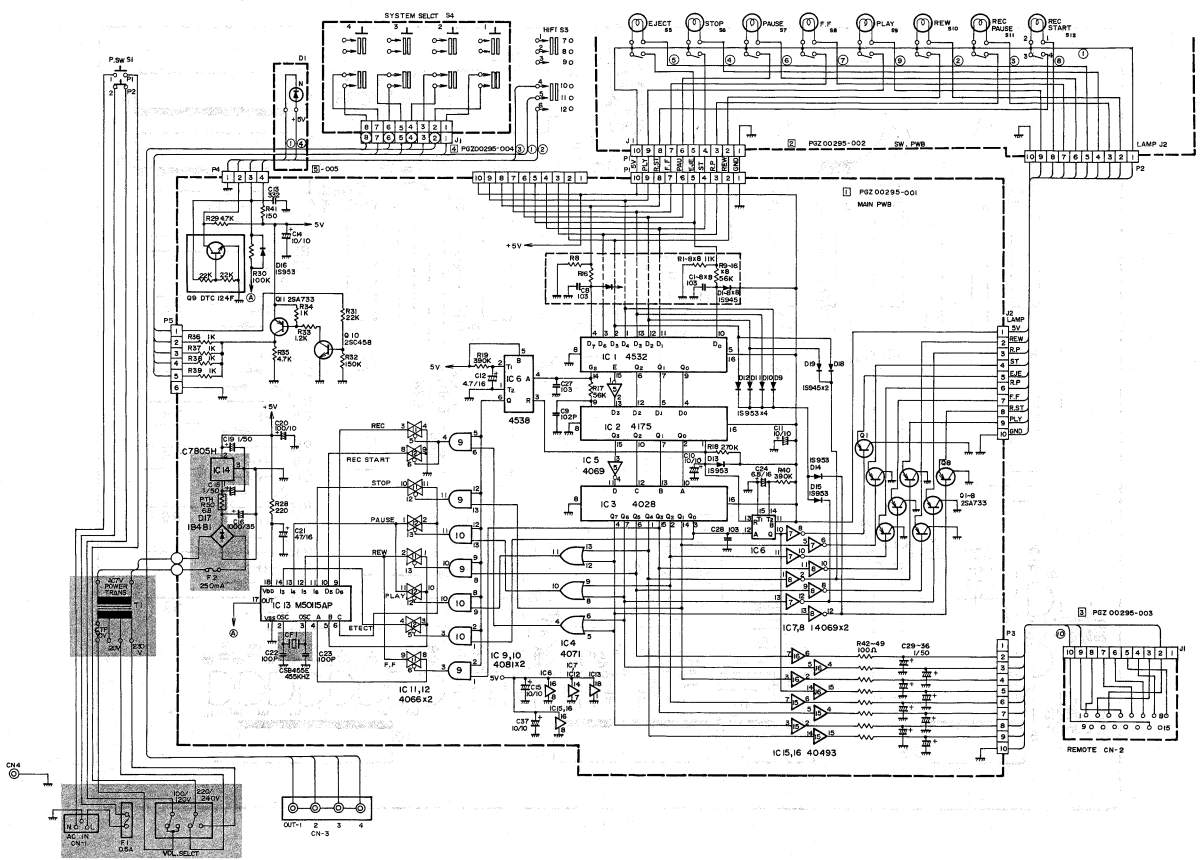
Dimensions: 485mm (W) x 45mm (H) x 245mm (D)

Accessories: Power cord x1 (U.S.A.only)

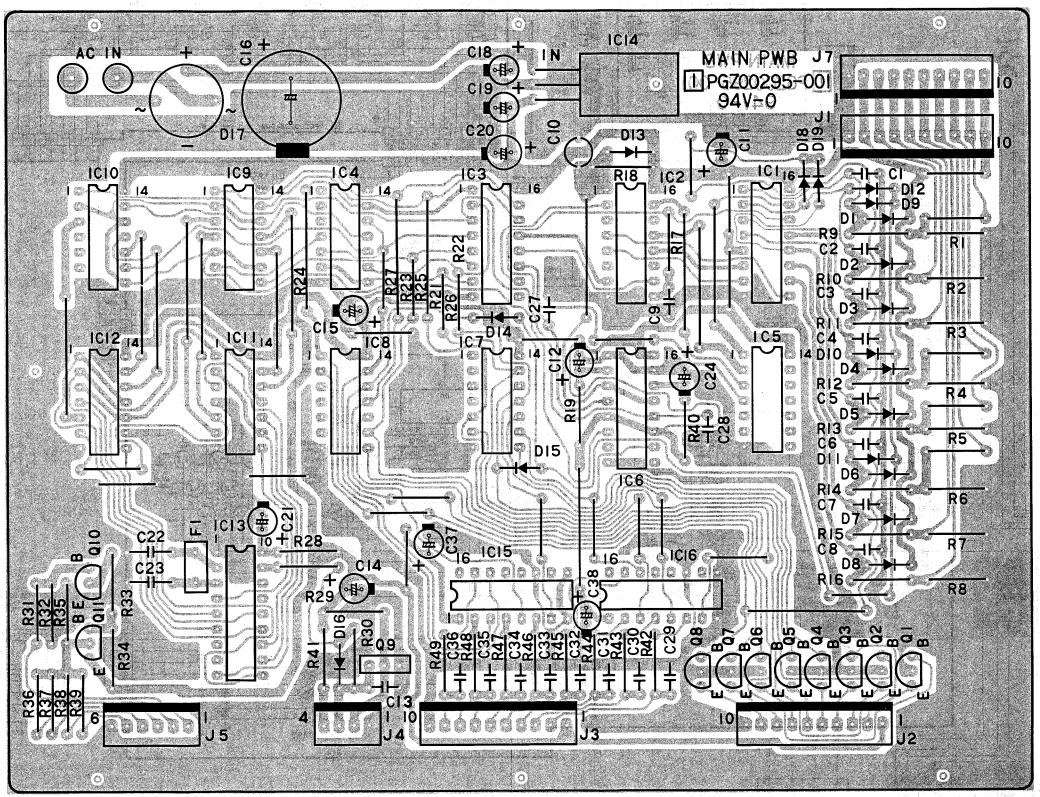
Remort connector x1

SECTION 1
CHARTS AND DIAGRAMS

1.1 MAIN CONTROL SCHEMATIC DIAGRAM

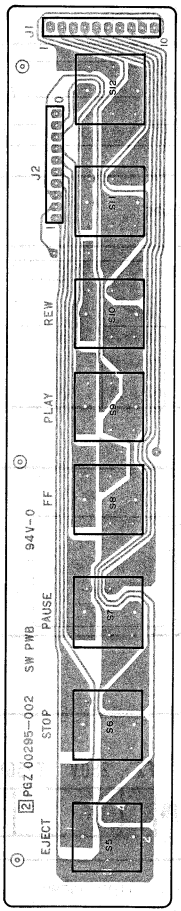


1.2 MAIN CONTROL CIRCUIT BOARD

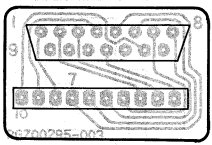


(TOP VIEW)

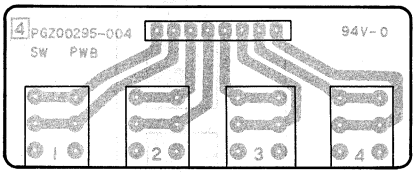
1.3 SWITCH CIRCUIT BOARD



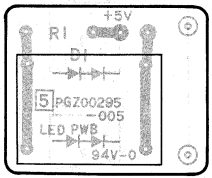
1.4 REMOTE CONNECTOR CIRCUIT BOARD



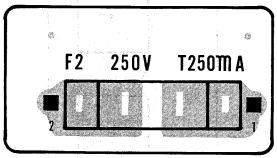
1.5 SYSTEM SELECT CIRCUIT BOARD



1.6 LED CIRCUIT BOARD



1.7 FUSE CIRCUIT BOARD



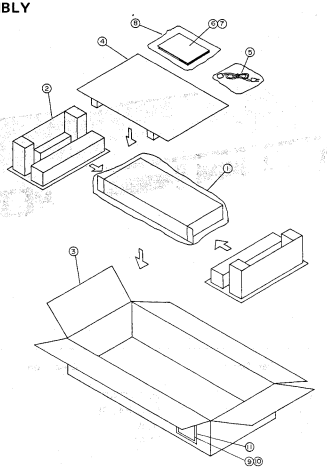
(TOP VIEW)

SECTION 2
EXPLODED VIEWS AND PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety.
Replace only with specified part numbers.

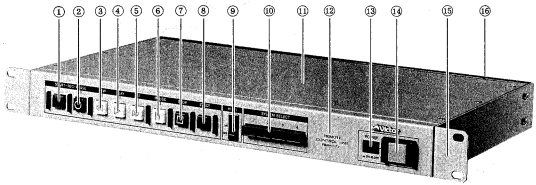
2.1 PACKING ASSEMBLY



– Packing assembly list –

Symbol No.	Part No.	Part Name	Description	Q'ty	Symbol No. Position
1	PGZ00295-011	Poly Bag		1	
2	PGZ00295-012	Cushion		2	
3	PGZ00295-101	Packing Case		1	
4	PGZ00295-014	Upper Cushion		1	
⚠ 5	QMP9003-021	Power Crod W.P.	NTSC ONLY	1	
⚠ 6	PGD30002-70	Instruction Book	NTSC ONLY	1	
⚠	PGD30002-71	"	PAL ONLY	1	
⚠ 7	PU33941-3	Safety Caution	NTSC ONLY	1	
8	PGZ00295-015	Poly Bag			
9	BT-20046B	Toll Free Card	NTSC ONLY	1	
10	BT-20061A	Warranty Card	"	1	
11	PU54821	Poly Bag		1	

2.2 CHASSIS ASSEMBLY



Symbol No.	Part No.	Part Name	Description	Q'ty	Symbol No. Position
1	PGZ00155-4	Switch	REC START	1	2-A
2	PGZ00155-9	"	REC PAUSE	1	"
3	PGZ00155-2	"	REW	1	"
4	PGZ00155-6	"	PLAY	1	2-B
5	PGZ00155-2	"	FF	1	"
6	PGZ00155-7	"	PAUSE	1	"
7	PGZ00155-8	"	STOP	1	"
8	PGZ00155-10	"	EJECT	1	"
9	QLS2218-111	Lever Switch	HIFI Sw	1	"
10	PGZ00295-007	Select Switch	SYSTEM SELECT	1	"
⚠ 11	PGZ00295-026	Top Cover		1	2-C
⚠ 12	PGZ00295-027	Front Panel		1	"
13	LD-706VR	LED		1	"
⚠ 14	PGZ00295-006	Power SW		1	"
⚠ 15	PGZ00295-028	Side Braket		2	"
⚠ 16	PGZ00295-029	Bottom Plate		1	2-B,2-C

SECTION 3
ELECTRICAL PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety.
Replace only with specified part number.

3.1 MAIN CONTROL BOARD ASSEMBLY

Symbol No.	Part No.	Part Name	Description
IC1	HD14532	I. C.	
IC2	HD14175	"	
IC3	HD14028	"	
IC4	HD14071	"	
IC5	HD14069	"	
IC6	HD14538	"	
IC7	HD14069	"	
IC8	HD14069	"	
IC9	HD14081	"	
IC10	HD14081	"	
IC11	HD14066	"	
IC12	HD14066	"	
IC13	M50115AP	"	
IC14	HA17805P	"	
IC15	HD14049	"	
IC16	HD14049	"	
Q1	2SA733	Transistor	
Q2	2SA733	"	
Q3	2SA733	"	
Q4	2SA733	"	
Q5	2SA733	"	
Q6	2SA733	"	
Q7	2SA733	"	
Q8	2SA733	"	
Q9	DTC124F	Digital Transistor	
Q10	2SC458	Transistor	
Q11	2SA733	"	
D1	1S945	Diode	
D2	1S945	"	
D3	1S945	"	
D4	1S945	"	
D5	1S945	"	
D6	1S945	"	
D7	1S945	"	
D8	1S945	"	
D9	1S953	"	
D10	1S953	"	
D11	1S953	"	
D12	1S953	"	
D13	1S953	"	
D14	1S953	"	
D15	1S953	"	
D16	1S953	"	
D17 ⚠	1B4B1	"	
D18	1S945	"	
D19	1S945	"	
F1 ⚠	QMF51C3-R50	Fuse	NTSC
⚠	QMF51A2-R50	"	PAL

Symbol No.	Part No.	Part Name	Description
F2 ⚠	QMF51C3-R25	Fuse	NTSC
⚠	QMF51A2-R25	"	PAL
R1	QRD167J-103	C.R	10K
R2	QRD167J-103	"	"
R3	QRD167J-103	"	"
R4	QRD167J-103	"	"
R5	QRD167J-103	"	"
R6	QRD167J-103	"	"
R7	QRD167J-103	"	"
R8	QRD167J-103	"	"
R9	QRD167J-563	"	56K
R10	QRD167J-563	"	"
R11	QRD167J-563	"	"
R12	QRD167J-563	"	"
R13	QRD167J-563	"	"
R14	QRD167J-563	"	"
R15	QRD167J-563	"	"
R16	QRD167J-563	"	"
R17	QRD167J-563	"	"
R18	QRD167J-274	"	270K
R19	QRD167J-394	"	390K
R28	QRD167J-221	C.R	220
R29	QRD167J-472	"	47K
R30	QRD167J-104	"	100K
R31	QRD167J-223	"	22K
R32	QRD167J-153	"	150K
R33	QRD167J-122	"	1.2K
R34	QRD167J-102	"	1K
R35	QRD167J-472	"	4.7K
R36	QRD167J-102	"	1K
R37	QRD167J-102	"	1K
R38	QRD167J-102	"	1K
R39	QRD167J-102	"	1K
R40	QRD167J-394	"	390K
R41	QRD167J-331	"	330
R42	QRD167J-101	"	100
R43	QRD167J-101	"	"
R44	QRD167J-101	"	"
R45	QRD167J-101	"	"
R46	QRD167J-101	"	"
R47	QRD167J-101	"	"
R48	QRD167J-101	"	"
R49	QRD167J-101	"	"

Symbol No.	Part No.	Part Name	Description
C1	QCS11HJ-103	C. CAP	103
C2	QCS11HJ-103	"	"
C3	QCS11HJ-103	"	"
C4	QCS11HJ-103	"	"
C5	QCS11HJ-103	"	"
C6	QCS11HJ-103	"	"
C7	QCS11HJ-103	"	"
C8	QCS11HJ-103	"	"
C9	QCS11HJ-102	"	102
C10	QEE41AM-106	T. CAP	10/10
C11	QET41AR-106	E. CAP	10/10
C12	QEE41CM-475	T. CAP	4.7/16
C13	QCS11HJ-332	C. CAP	332
C14	QET41AR-106	E. CAP	10/10
C15	QET41AR-106	"	10/10
C16	QET41VR-108	"	1000/35
C18	QET41HR-105	E. CAP	1/50
C19	QET41HR-105	"	1/50
C20	QET41ER-107	"	100/25
C21	QET41ER-476	"	47/25
C22	QCS11HJ-101	C. CAP	100P
C23	QCS11HJ-101	"	100P
C24	QEE41CM-685	T. CAP	6.8/16

Symbol No.	Part No.	Part Name	Description
C27	QCS11HJ-103	C. CAP	103
C28	QCS11HJ-103	"	103
C29	QET41HR-105	E. CAP	1/50
C30	QET41HR-105	"	"
C31	QET41HR-105	"	"
C32	QET41HR-105	"	"
C33	QET41HR-105	"	"
C34	QET41HR-105	"	"
C35	QET41HR-105	"	"
C36	QET41HR-105	"	"
C37	QET41HR-106	E. CAP	10/50
C38	QET41HR-106	"	10/50
T1 ⚠	PGZ00294		Power Trans
CF1 ⚠	CSB455E		455KHz
P1 ⚠	PU52108-6R8K	Posistor 6.8Ω	
⚠	QMC0335-003	AC Connector	
⚠	PU52931	Connector Cover	
⚠	PU50316	Fuse Cover	
⚠	PGZ00211-016	Volt. Selector	
⚠	PGZ00211-020	Vol. Sele. Cover	